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APPLICATION FOR UNITED STATES LETTERS PATENT

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Title: **FLOOR SWEEPER HAVING A VIEWABLE RECEPTACLE**

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FLOOR SWEEPER HAVING A VIEWABLE RECEPTACLE

BACKGROUND OF THE INVENTION

Priority

This application claims priority to U.S. Provisional Patent Application Serial No. 60/410,835, having a date of filing of September 13, 2002.

Field of Invention

This invention finds use in the field of floor care and cleaning. More particularly, this invention relates to a non-powered floor sweeper for the collection of dust, dirt and other detritus having a transparent top surface to allow the user to view such accumulated debris and the operation of the sweeper brush while in use.

Background

Devices for cleaning bare and carpeted floors are well known in the art. From the simple straw broom to an electric vacuum cleaner with HEPA filtration, the average consumer has a wide array of cleaning implements to choose from. One such cleaning tool is a non-motorized floor sweeper. Used widely in commercial establishments, particularly restaurants, such sweepers are well adapted for quick and easy removal of dry debris, such as dirt, dust, and food crumbs, when a powered vacuum would be too cumbersome, obtrusive, or difficult to use.

The structure of a prior art non-motorized floor sweeper, such as is seen in several models made by the Bissell Corporation, generally consists of a handle horizontally and pivotally connected to a body or base portion. The base portion has long, typically rectangular and horizontal, top portion, four vertical side walls attached thereto, and is open on the bottom, prior to final assembly. Attached to the bottom of the base portion are two sets of wheels, mounted within the base portion on axles or directly to the base. In one variation of a prior art sweeper, a single brush roller is interposed between and frictionally engaged to the wheels such that when the wheels turn when the user rolls the sweeper across the surface to be cleaned, the

roller also rotates, thus brushing the debris into the sweeper base. Other versions of such sweepers have two brush rollers or fixed brushes in the corners of the base. The remaining portion of the underside of the sweeper is covered by one or more plates, dust pans or dirt receptacles; the number of such pans depending on the positioning of the wheels and brush rollers. The receptacles are generally removable or pivotally open outward such that the debris accumulated within the sweeper body can be removed. Non-motorized sweepers are conventionally constructed, in whole or part, of metal or opaque plastic materials.

Although the designs of prior art non-motorized sweepers are generally quite efficient and non-problematic, such devices suffer from at least one usability flaw. Under many circumstances, the user may be interested in know the contents of the sweeper body that have been collected during use or if a certain object has been picked up. However, until and unless the user inverts the sweeper and opens the plate or plates covering the bottom of the sweeper, her or she is unable to ascertain the contents of interest. Further, the operator has no way of knowing if the brush roller is jammed or otherwise not moving or if the debris hopper is reaching its capacity.

It is therefore an object of the present invention to provide a non-motorized floor sweeper that allows a user to view the contents of the sweeper's collection chamber.

These and other objections of the invention will be apparent to those skilled in the art for the following detailed description of the preferred embodiments of the invention.

Summary of Invention

The invention comprises a non-motorized floor sweeper generally having a handle, a base portion having a top portion and four side portions, a plurality of wheels, at least one roller brush, and a bottom receptacle. The improvement embodied by the invention comprises a segment of the top portion being formed from a transparent material, whereby the user may observe the material being captured by the sweeper during operation and the motion of the brush rollers.

BRIEF DESCRIPTION OF THE DRAWINGS

Specific embodiments of the invention have been chosen for purposes of illustration and description, and are shown in the accompanying drawing, forming a part of the specification wherein:

FIG. 1 is a perspective view of the sweeper of the instant invention

FIG. 2 is a cutaway view of the sweeper of the instant invention.

DESCRIPTION OF PREFERRED EMBODIMENTS

The sweeper according to the present invention will be described herein by reference to the accompanying drawings wherein FIGS. 1 and 2 illustrate one preferred embodiment of the present invention, in which like parts are shown by corresponding reference numerals throughout.

As can be seen in FIG. 1, the sweeper **10** of the instant invention is generally comprised of a handle **12** pivotally attached by a pivotable arm **14** to a body or base portion **20**, such that the handle **12** can be pivoted downward to a horizontal position even with the top of the body to allow a variety of handle positions, such that the sweeper **10** can be maneuvered into horizontal spaces, such as under furniture. The base portion **20** is more specifically comprised of a horizontal top **22** and four vertical sides **24** attached to the top, such that a box-like structure is formed having an opened bottom (as can be seen in Fig. 2).

Referring to FIG. 2, at least two sets of wheels **26** are attached to the bottom portion of the sweeper **10**, either directly to parallel sides **24** of the sweeper **10** or two axles **28** spanning such side portions. At least one roller brush **30** on an rod **32** is interposed between the sets of

wheels 26 by an integrally intermediate wheel or gear 34 such that a portion of the gear 34 is frictionally engaged to wheels, thus rotating the brush 30 about the rod 32 upon movement of the wheels 26 across a surface (see Fig. 2). The wheels 26 are preferably rubberized or otherwise contain materials with a high coefficient of friction such that the wheels more readily engage the gear 34 and the cleaning surface. The remaining open portions of the bottom of the sweeper base 20 are covered by at least one dust pan or dirt receptacle 36, generally in the form of a cover or plate, therefore forming a mostly closed cavity within the sweeper base. Said receptacle or receptacles 36 are either removable by the user or hinged or otherwise pivotally connected to the sweeper base 20, such as by axles 28 and springs or leaves 40, thus allowing access to the internal portion of the sweeper base 20 where the debris is collected from the brush 30 when its bristles contact the vertical edges of the receptacles 36. The density and number of bristles on the brush 30 and arrangement thereof are a matter of design choice and may be replaced by equivalent structures known in the art, such as flexible paddles or blades.

The preferred contemplated embodiment of the disclosed sweeper 10 is further defined by one or more segments of the top portion 22 of the sweeper base 20 being constructed of a transparent, translucent or otherwise clear material, such as window 38. For purposes of this patent, the term "transparent" also is used to mean materials that are translucent to transparent and otherwise non-opaque. While the remainder of the base 20, i.e., the side walls 24 can preferably be made of metal or opaque plastic, the window or windows 38 is constructed of transparent plastic materials, as are well known in the art. The window 38 portion may be made of other transparent materials, but such materials, like glass, may not be preferable to use for safety or economic reasons. In one alternative embodiment, two transparent window portions 38 are used, at the front and back of the top portion 22, allowing the user to view the wheels 26, brushes 30 and/or debris receptacles 36 contained directly underneath side windows. In yet a third embodiment of the invention, the entirety of the top 22 and side portions 24 of the body 20 are constructed of the transparent (or translucent) material of choice.

The advantage of the preferred embodiment is that it allows the user to observe the dirt and other materials being picked up by the sweeper 10. As such, if an unintended item is

picked up, the user can immediately be informed. Further, a transparent window 38 also allows the user to observe the movement of the brush roller 30. If the roller 30 is jammed, or otherwise not functioning correctly, the user is immediately made aware of the problem. To assist this observation, it is contemplated that the bristles of the brush roller, and even the entire roller itself, can be colored in a bright or contrasting shade that increases visualization against the dirt receptacles.

Although in the preferred disclosed embodiment the sweeper is non-motorized, it is contemplated that the sweeper brushes 30 and/or wheels 26 can be motorized, as is known and practiced in the art.

In addition to the structures, sequences, and uses immediately described above, it will be apparent to those skilled in the art that other modifications and variations can be made the method of the instant invention without diverging from the scope, spirit, or teaching of the invention. Therefore, it is the intention of the inventors that the description of instant invention should be considered illustrative and the invention is to be limited only as specified in the claims and equivalents thereto.